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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/598,807	09/12/2006	Adrian W. Payne	GB 040059	1591
24737 7590 03/17/2008 PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510				
EXAMINER				
NGUYEN, HAI V				
ART UNIT		PAPER NUMBER		
2618				
MAIL DATE		DELIVERY MODE		
03/17/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/598,807

Applicant(s)

PAYNE ET AL.

Examiner

HAI V. NGUYEN

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2006.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-27 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 12 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date 05/10/2007
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

1. This Office Action is in response to the application filed on 12 September 2006.
2. Claims 1-27 are presented for examination.

Specification

3. The textual portion of the specification is replete with grammatical and idiomatic errors too numerous to mention specifically. The specification should be revised carefully.
4. The applicant should use this period for response to thoroughly and very closely proof read and review the whole of the application for correct correlation between reference numerals in the textual portion of the Specification and Drawings along with any minor spelling errors, general typographical errors, accuracy, assurance of proper use for Trademarks ™, and other legal symbols ®, where required, and clarity of meaning in the Specification, Drawings, and specifically the claims (i.e., provide proper antecedent basis for "the" and "said" within each claim). Minor typographical errors could render a Patent unenforceable and so the applicant is strongly encouraged to aid in this endeavor. The following are just some examples:
5. Claims 10, 24 are objected to because of the following informalities: there are the elements of "...un which a/...", ""...(the)..." in which are not clear to be understood. Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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7. Claims 10, 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
8. Claims 10, 24 recite the limitation "identifying the channel...to receive the signal in the channel." in claims 10, 24. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102(e) that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1-11, 13-27 are rejected under 35 U.S.C. 102(e) as being anticipated by **Lau et al. US patent # 6,690,657 B1.**
11. As to claim 1, Lau discloses substantially the invention as claimed, including a radio repeater (*Fig. 3, elements 68 or 78; Figs. 14-16, elements 100, 140, 180 respectively*) for use in a short range radio communication system (*Figs. 3, 8, element network 58*), the repeater comprising a receiver for receiving a signal in a first frequency band (*a channel CH1*) and a transmitter for transmitting the signal in a second frequency band (*a channel CH2*) (*a repeater can receive RF signals containing digital data not destined for the repeater itself, and retransmit that digital data as a second RF*

signal, col. 5, lines 1-3; Figs. 3, 8, channel-shifting repeaters used to pick up a transmitted signal on one channel, shift it to a substantially non-interfering channel, and retransmit the signal, Abstract; Figs. 6, 7, col. 5, line 59 – col. 6, line 19; Figs. 14-15, col. 7, line 45 – col. 8, line 50; odd-numbered DSSS channels could use a first frequency band, and even-numbered DSSS channels could use a second, non-overlapping frequency band, col. 10, lines 10-14).

12. As to claim 2, Lau discloses, wherein the transmitter transmits the signal over a maximum range shorter than the maximum range of typical communication devices (*Figs. 3-7, elements 62, or 64, or 70, or 74, or 80*) intended to operate in the radio communication system (*when a given transmitter is transmitting, repeaters in range of that transmitter receive the signal, channel-shift the signal, and retransmit it, col. 4, lines 19-21*).

13. As to claim 3, Lau discloses, wherein the transmitter transmits the signal over a maximum range of around 1m or less (*Fig. 3, within office floor in the building floor or household, col. 4, lines 49-52*).

14. As to claim 4, Lau discloses, wherein the transmitter transmits the signal at power less than the power of typical communication devices intended to operate in the radio communication system (*lower power and shorter range, col. 3, line 66; Fig. 15, control circuit 166 can reduce transmit power, thereby reducing the potential for interference, and allowing channel re-use elsewhere in the network, col. 8, lines 59-62*).

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15. As to claim 5, Lau discloses, wherein the first frequency band is the designated band of a short range wireless connectivity standard (*col. 1, line 61 - col. 2, line 24; col. 9, lines 10-24; col. 10, lines 3-13*).

16. As to claim 6, Lau discloses, wherein the second frequency band is at a lower frequency than the first frequency band (*col. 1, line 61 - col. 2, line 24; col. 9, lines 10-24; col. 10, lines 3-13*).

17. As to claim 7, Lau discloses, further comprising a means (*Fig. 16, element phase shift 202*) for shifting the signal from the first frequency band to the second frequency band.

18. As to claim 8, Lau discloses, wherein the signal is shifted by a constant frequency offset (*col. 4, lines 60-67*).

19. As to claim 9, Lau discloses, comprising a filter (*Fig. 14, elements 120; Fig. 15, element 158*) for filtering signals received in the first frequency band to remove signals and noise that may interfere with a signal received from a first communication device when transmitted by the repeater (*col. 7, line 45 – col. 8, line 28*).

20. As to claim 10, Lau discloses, comprising means (*Fig. 14, element 130*) for identifying the channel in which the first communication device is transmitting the signal and filtering signals received in the first frequency band to receive the signal in the channel (*Fig. 14, col. 7, line 45 – col. 8, line 28; or Fig. 16, control circuit 206, col. 9, line 61 – col. 10, line 2*).

21. As to claim 11, Lau discloses, wherein the repeater only transmits when it receives a signal in the first frequency band above a given signal strength (*the control*

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circuit 130 operates switches 108 and 112 to test the relative strength of signals received on CH1 and CH2, and then selects a switch configuration for repeating mode that corresponds with the strongest received signal, col. 7, line 45 – col. 8, line 28).

22. As to claim 13, Lau discloses a short range radio communication (Fig. 3, wireless network 58) system comprising:

a first communication device (Figs. 3-7, elements 62, or 64, or 70, or 74, or 80) for transmitting the signal in the first frequency band;

the repeater (Figs. 3-7, elements 68 or 78, a repeater can receive RF signals containing digital data not destined for the repeater itself, and retransmit that digital data as a second RF signal, col. 5, lines 1-3; Figs. 3, 8, channel-shifting repeaters used to pick up a transmitted signal on one channel, shift it to a substantially non-interfering channel, and retransmit the signal, Abstract; Figs. 6, 7, col. 5, line 59 – col. 6, line 19; Figs. 14-15, col. 7, line 45 – col. 8, line 50; odd-numbered DSSS channels could use a first frequency band, and even-numbered DSSS channels could use a second, non-overlapping frequency band, col. 10, lines 10-14); and

a second communication device (Figs. 3-7, elements 62, or 64, or 70, or 74, or 80) for receiving the signal in the first frequency band or the second frequency band.

23. As to claim 14, Lau discloses, wherein the second communication device (Figs. 3-7, elements 62, or 64, or 70, or 74, or 80) selects to receive the signal in the second frequency band when the quality of the signal in the first frequency band is poor (Lau, Figs. 4-7, col. 5, line 31 – col. 6, line 52).

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24. Claim 15 corresponds to the method claim of claim 1; therefore, it is rejected under the same rationale as in claim 1 above.
25. Claims 16-25 have similar limitations of claims 2-11; therefore, they are rejected under the same rationale as in claims 2-11 above.
26. Claims 26-27 have similar limitations of claims 13-14; therefore, they are rejected under the same rationale as in claims 13-14 above.

Claim Rejections - 35 USC § 103

27. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

28. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Lau** as applied to claims 1-11 above, and further in view of **Verloop et al. US 2005/0176367 A1**.
29. As to claim 12, Lau does not explicitly disclose the radio repeater being worn on or attached to the body or clothing of a user.

Verloop discloses *the wireless repeater having Bluetooth headset to call out and receive calls via a high speed port ([0055]) for the purpose of switching the communication ([0045], [0053]).*

30. Further references of interest are cited on Form PTO-892, which is an attachment to this action.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HAI V. NGUYEN whose telephone number is (571)272-3901. The examiner can normally be reached on 6:00-3:30 Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Anderson can be reached on 571-272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hai V. Nguyen
Examiner
Art Unit 2618
/H. V. N./

/Matthew D. Anderson/
Supervisory Patent Examiner, Art Unit 2618